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FIG. 1

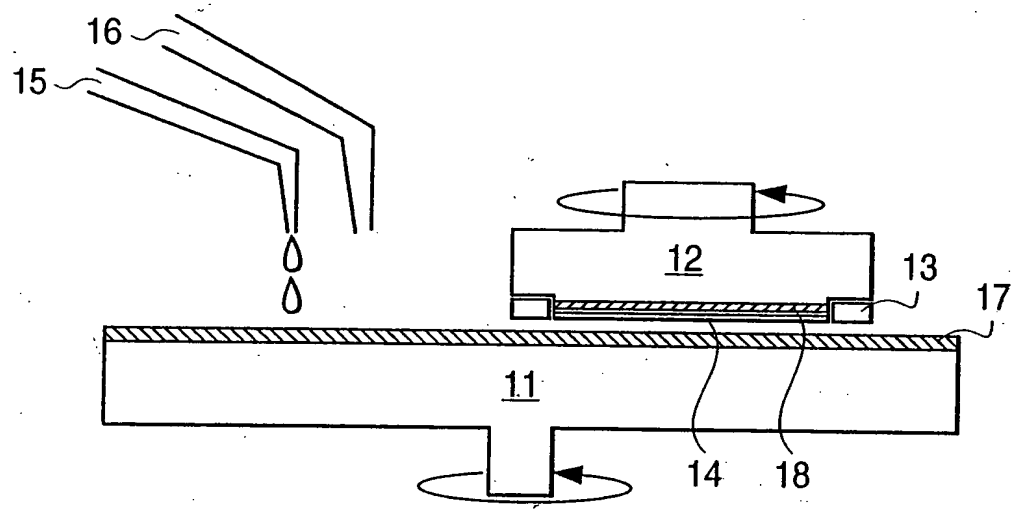


FIG. 2

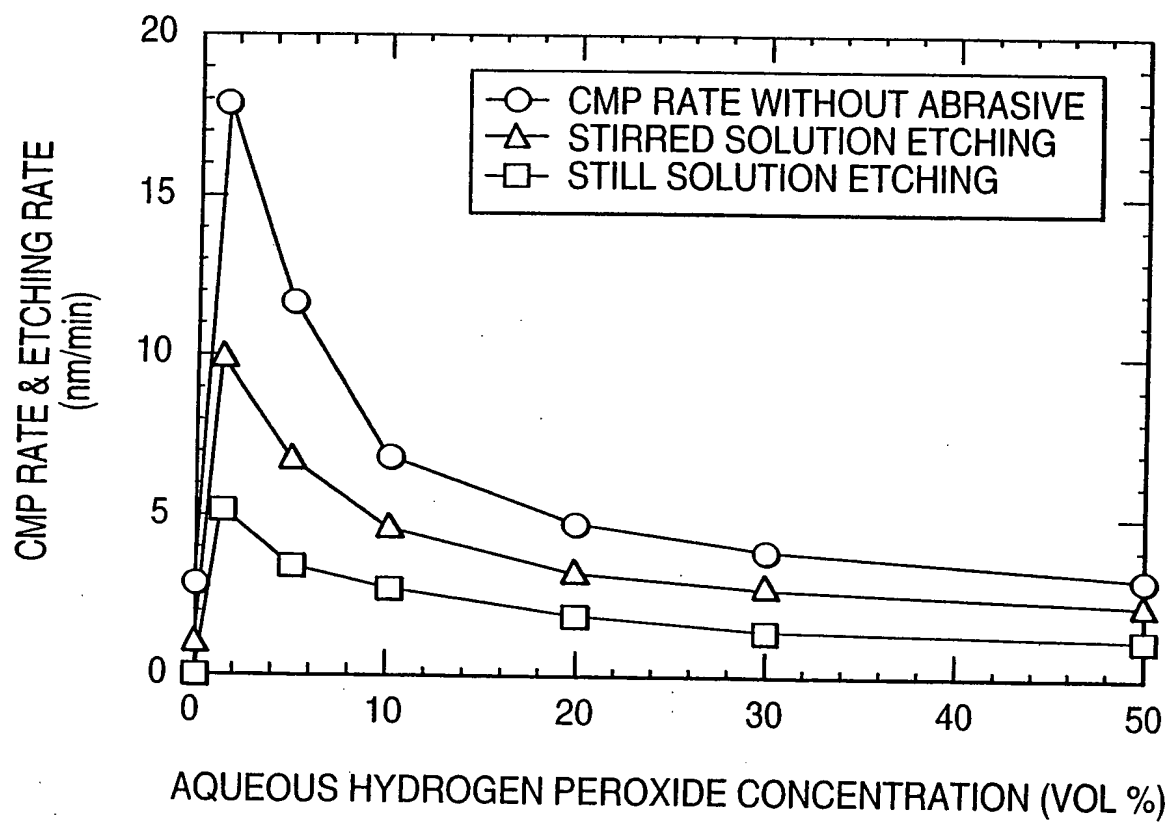


FIG. 3

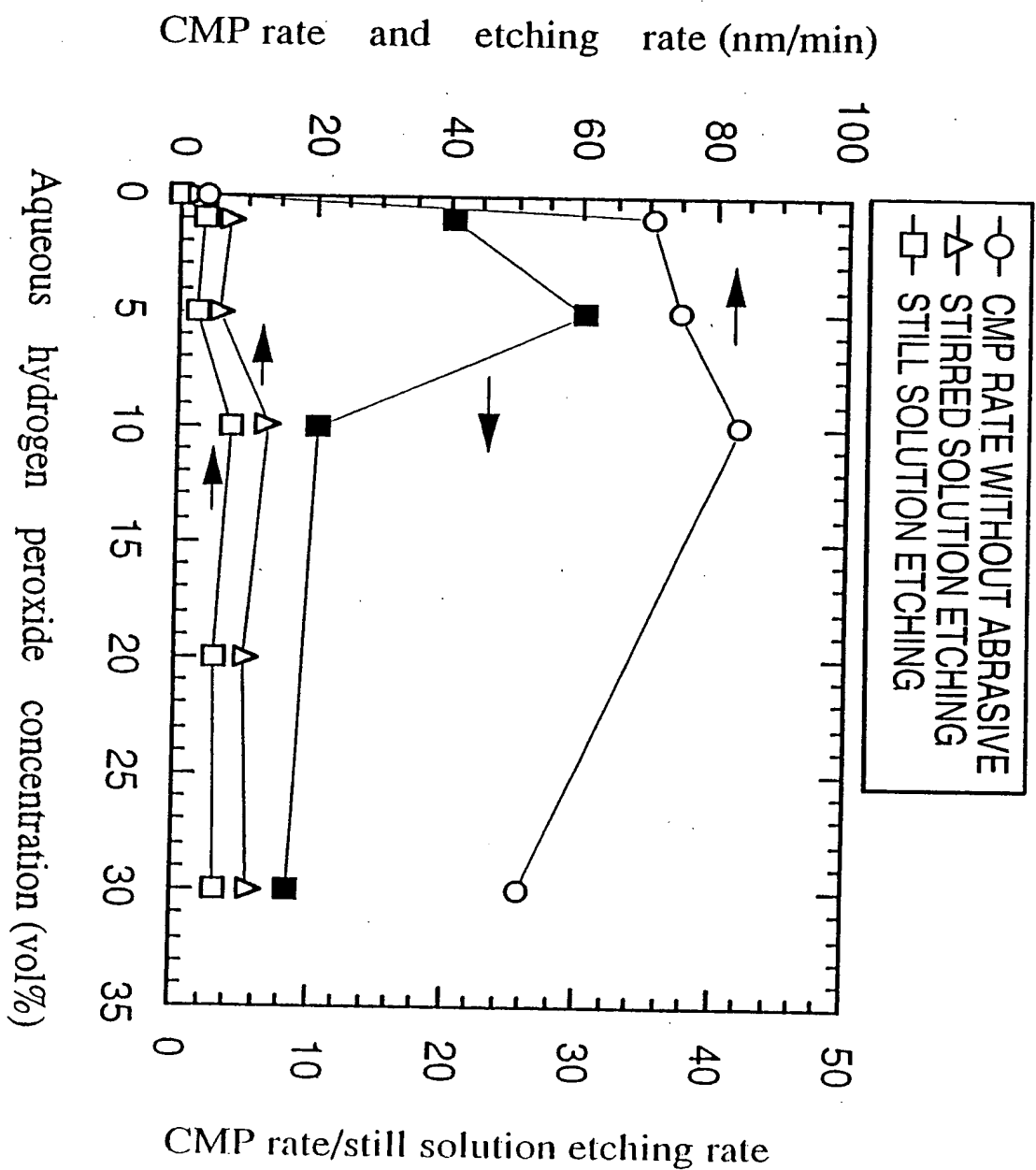


FIG. 4A

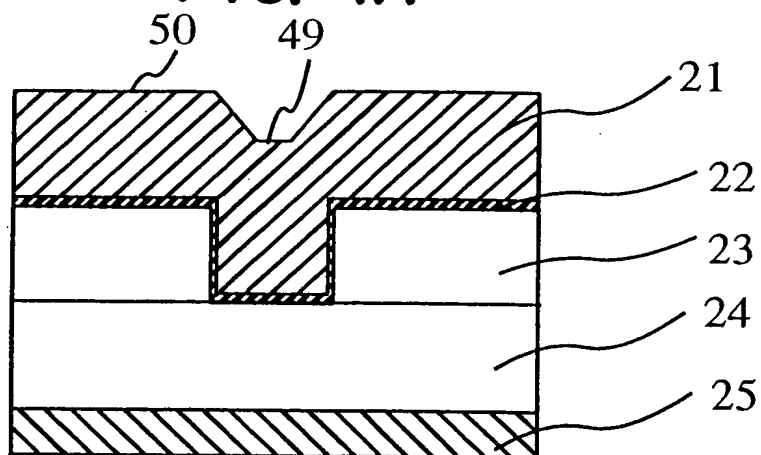


FIG. 4B

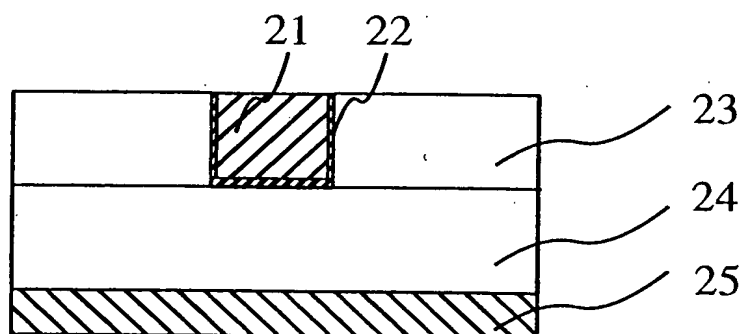


FIG. 4C

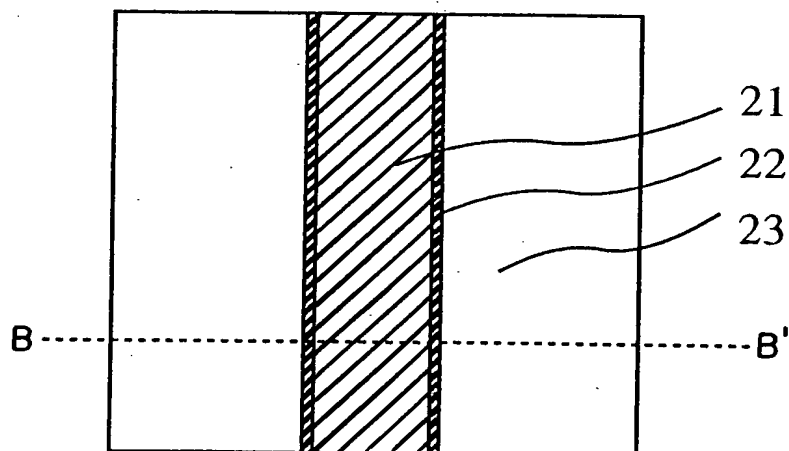


FIG. 5A

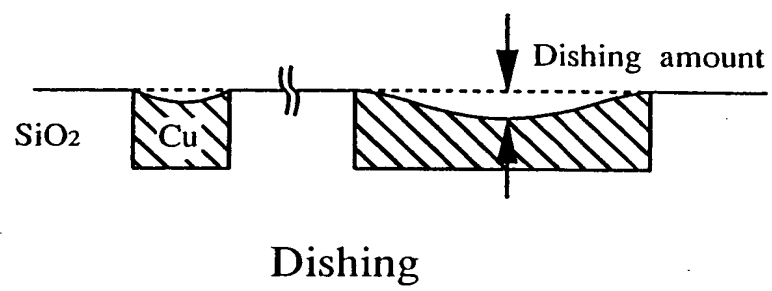


FIG. 5B

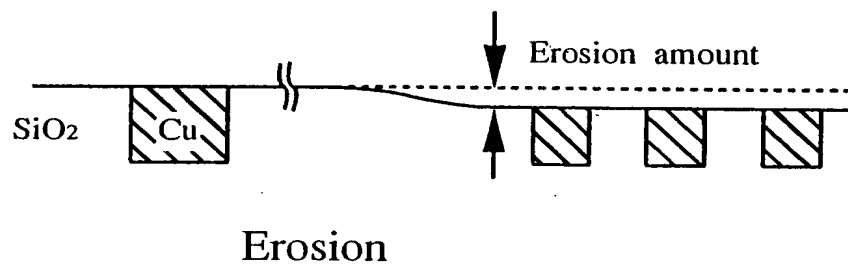


FIG. 6A

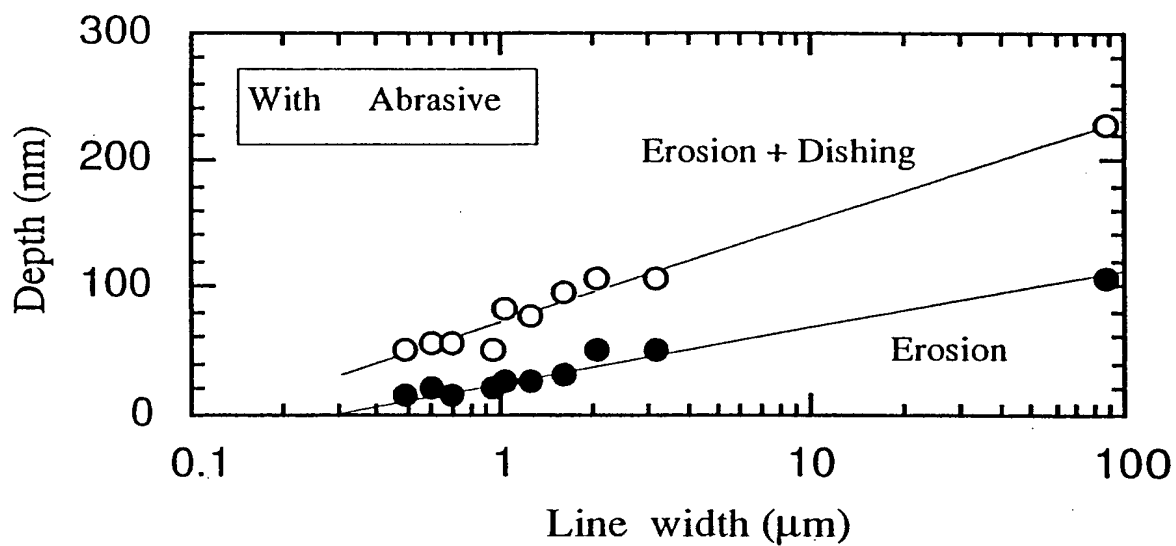


FIG. 6B

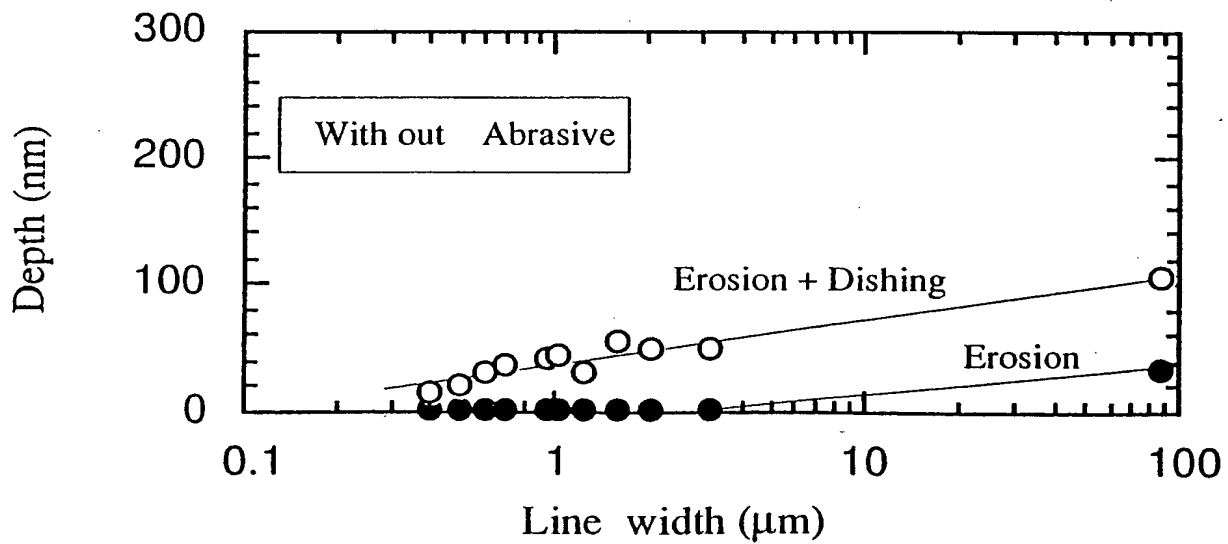


FIG. 7A

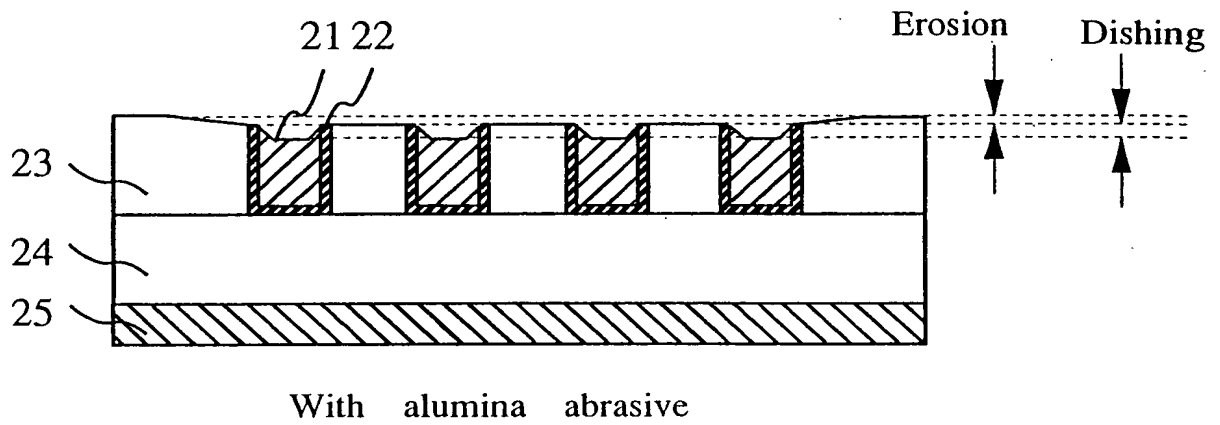
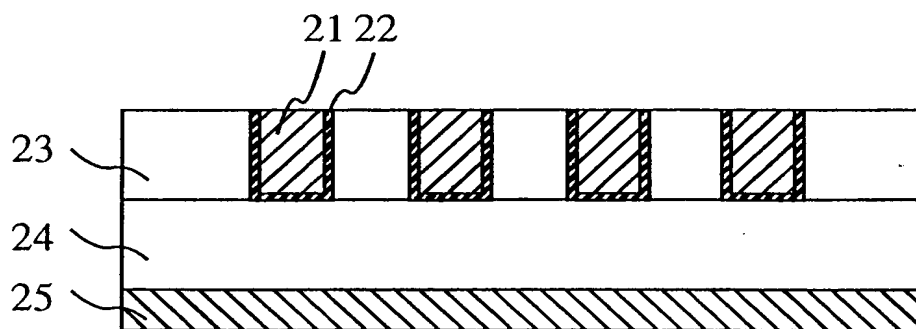
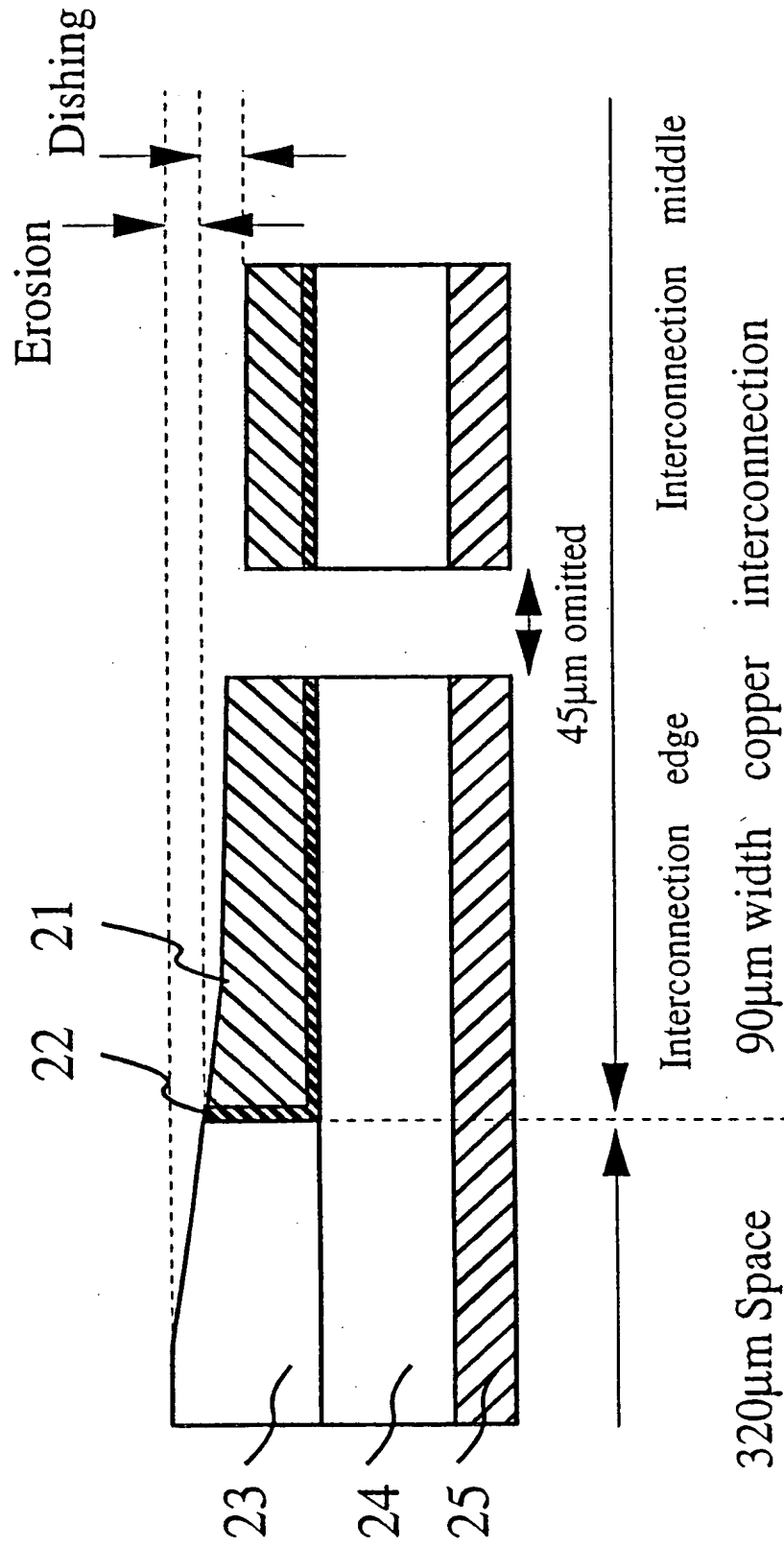


FIG. 7B

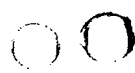



Without alumina abrasive

FIG. 8A

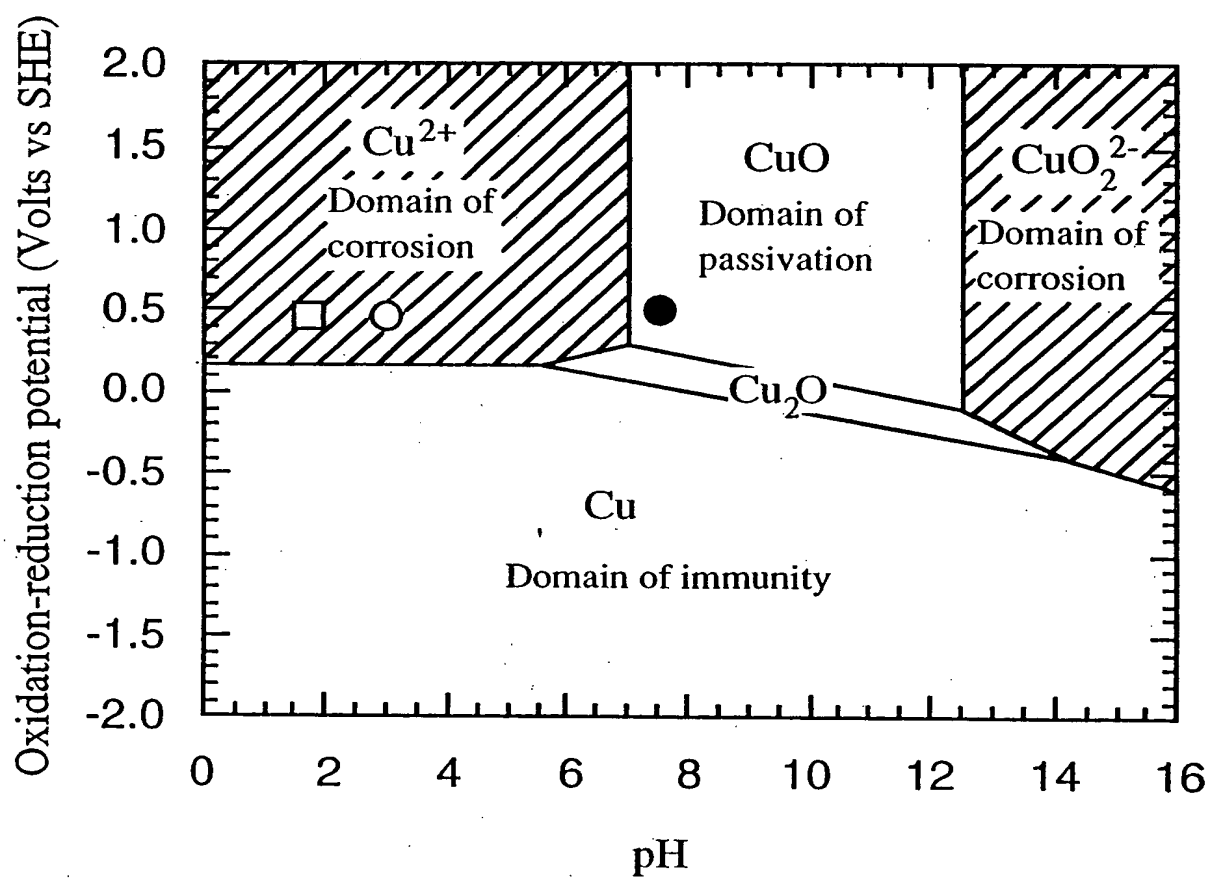


With alumina abrasive



Without alumina abrasive

FIG. 9



- Citric acid-based polishing solution
- Nitric acid-based polishing solution
- Aminoacetic acid-based polishing solution

FIG. 10

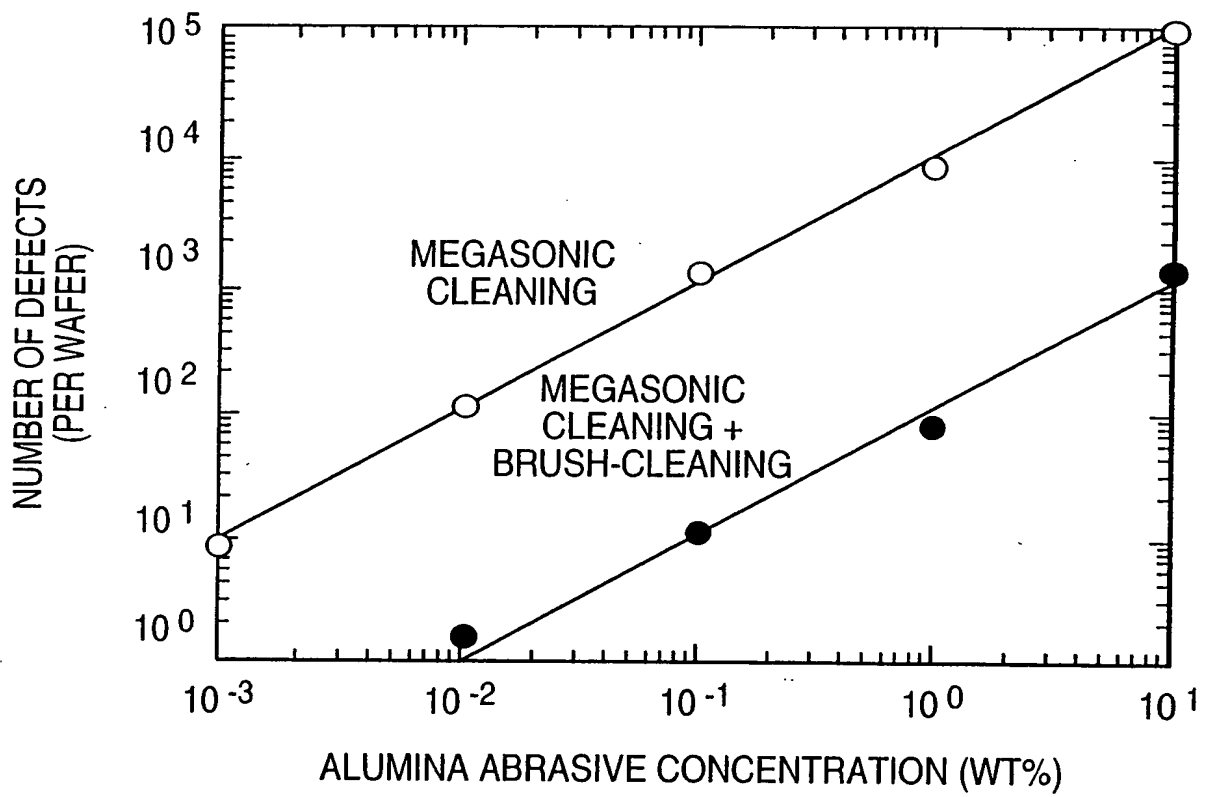


FIG. 11

	MACHINE	PROCESS	OBJECT	TIME
	CMP MACHINE	CONDITIONING	PREVENTION OF CLOGGING OF POLISHING PAD BY ABRASIVE	1 MIN
		FIRST CMP	METAL CMP; FORMING OF INTERCONNECTION	5 MIN
		SECOND CMP	INSULATING FILM CMP; REMOVAL OF ABRASIVE AND REMOVAL OF DAMAGED LAYER ON INSULATING FILM	1 MIN
	CLEAN-ING MACHINE	FIRST BRUSH-CLEANING (NH ₄ OH)	REMOVAL OF ABRASIVE	1 MIN
		SECOND BRUSH-CLEANING (HF)	REMOVAL OF METAL CONTAMINATION IN DAMAGED LAYER ON INSULATING FILM SURFACE	1 MIN
		MEGASONIC CLEANING	REMOVAL OF CLEANING SOLUTION	30 SEC
		SPIN DRYING	DRYING OF WATER	30 SEC

FIG. 12

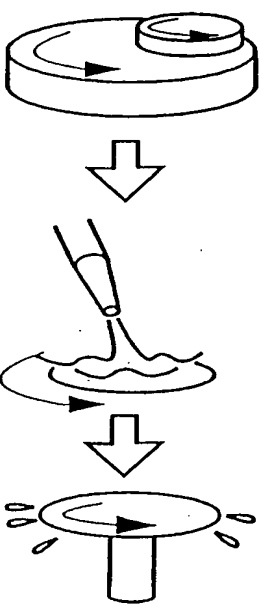
	MACHINE	PROCESS	OBJECT	TIME
	CMP MACHINE	CMP	METAL CMP; FORMING OF INTERCONNECTION	5 MIN
	CLEANING MACHINE	MEGASONIC CLEANING	REMOVAL OF CLEANING SOLUTION	30 SEC
		SPIN DRYING	DRYING OF WAFER	30 SEC

FIG. 13

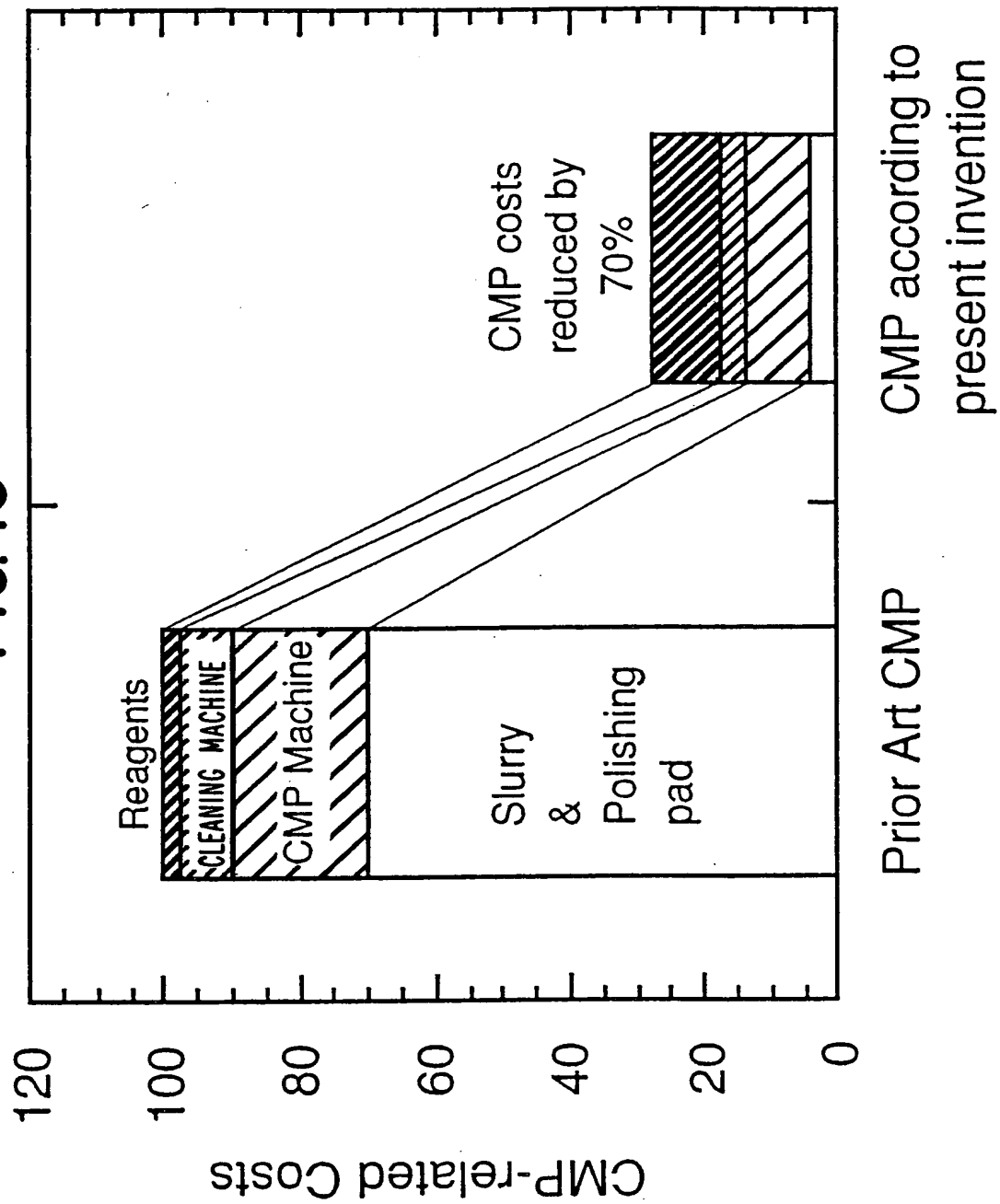


FIG. 14A

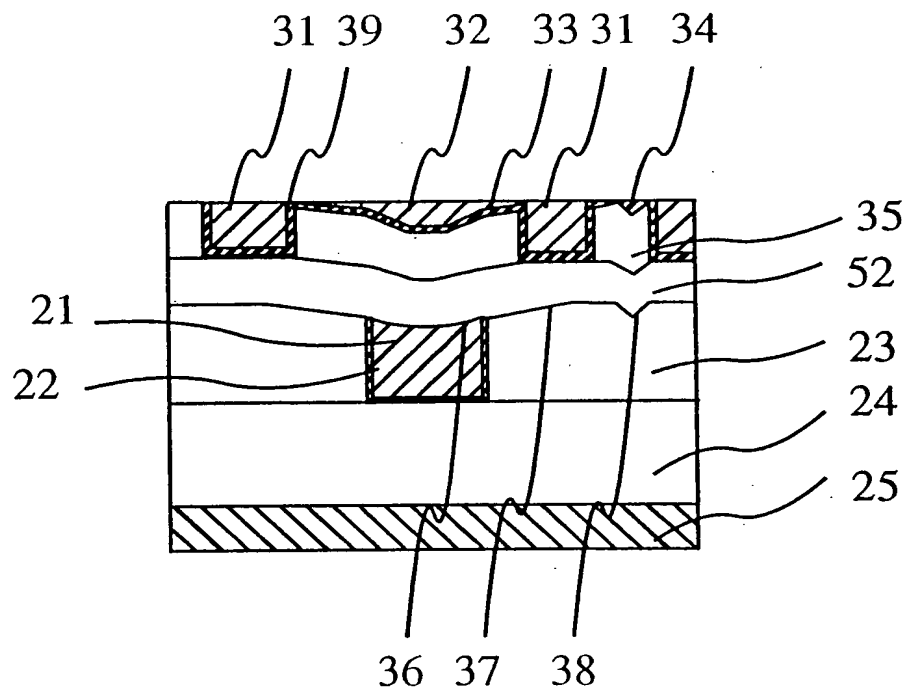


FIG. 14B

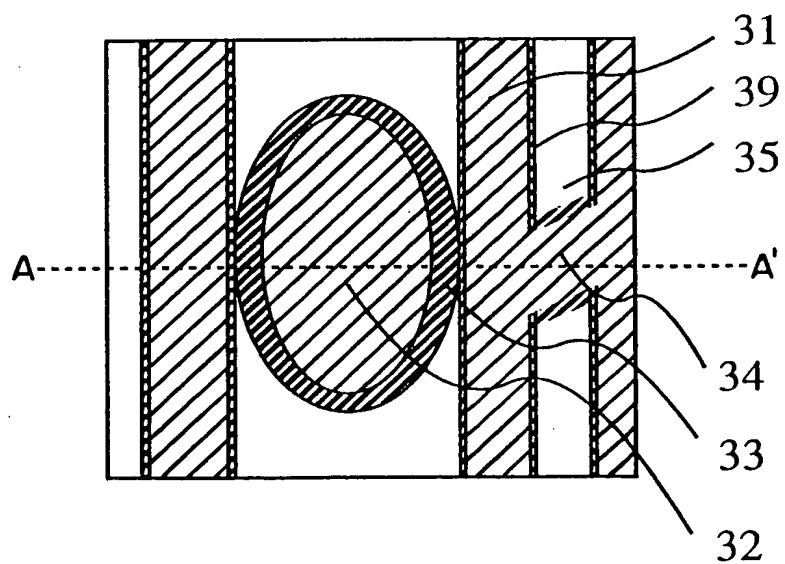


FIG. 15A

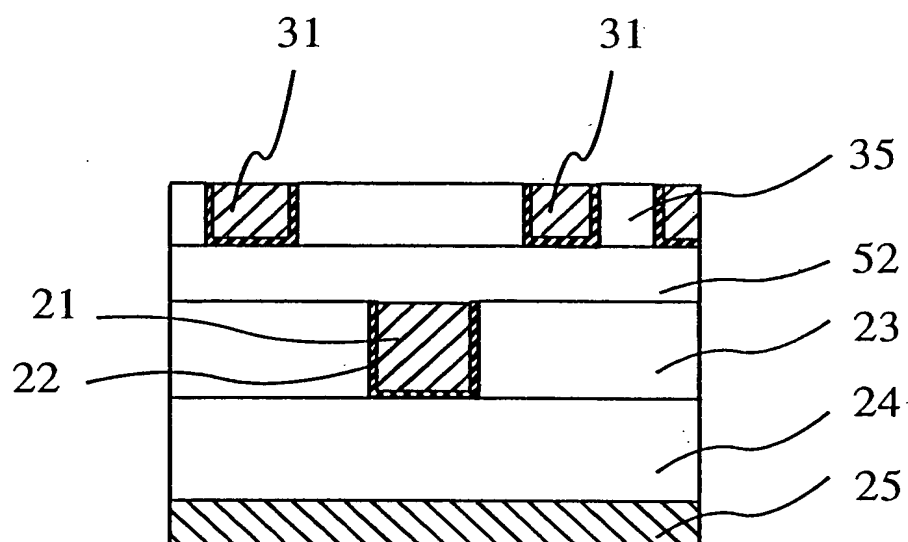


FIG. 15B

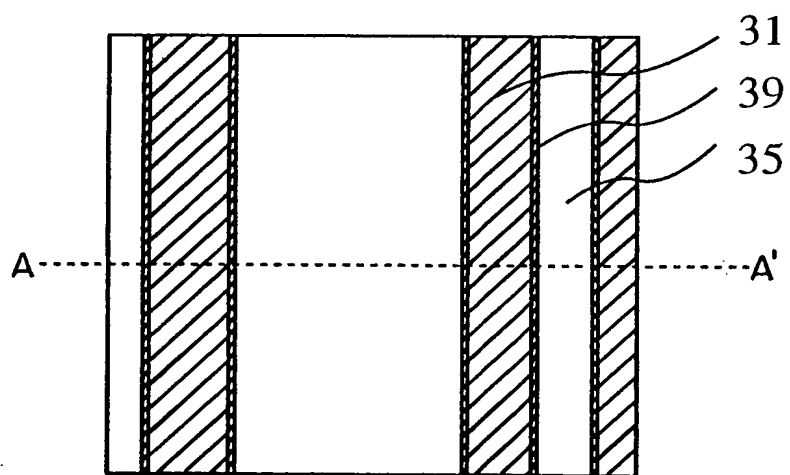


FIG. 16A

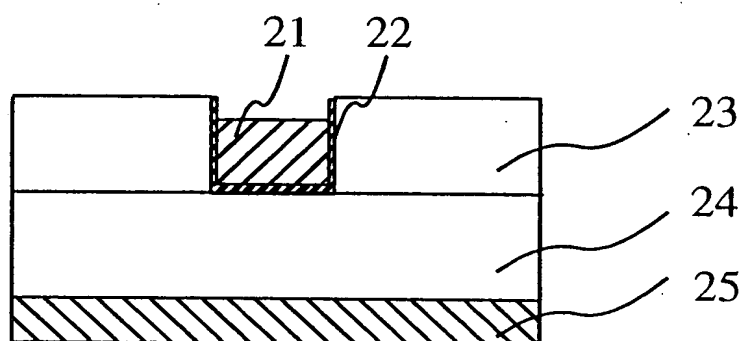


FIG. 16B

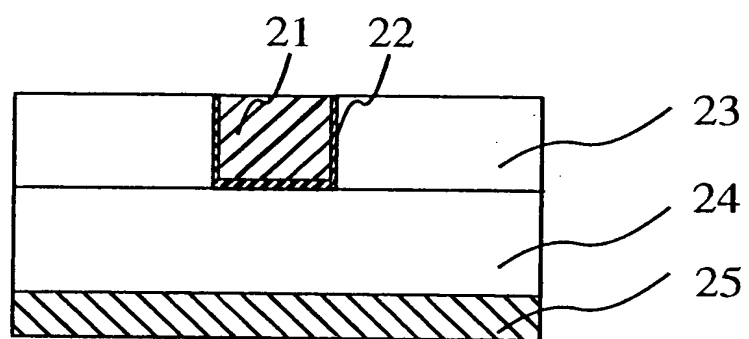


FIG. 17A

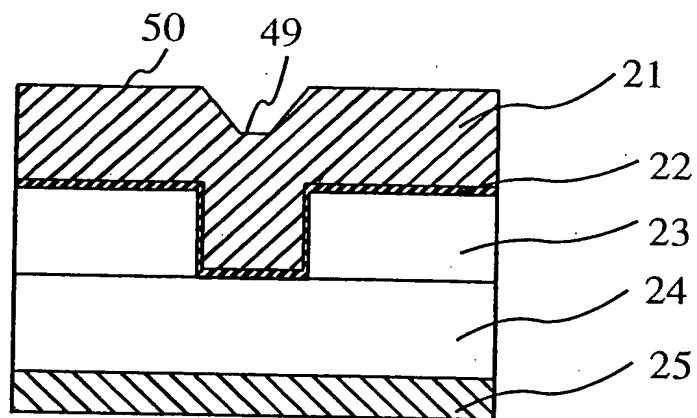


FIG. 17B

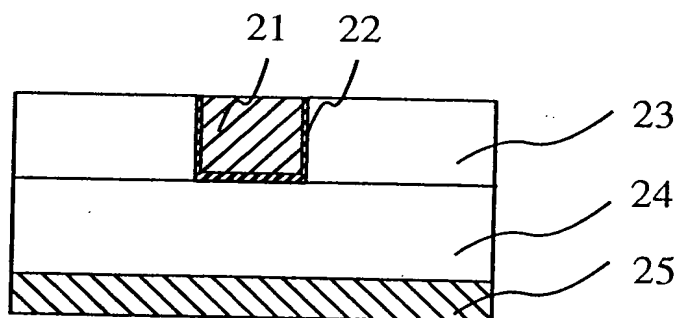


FIG. 17C

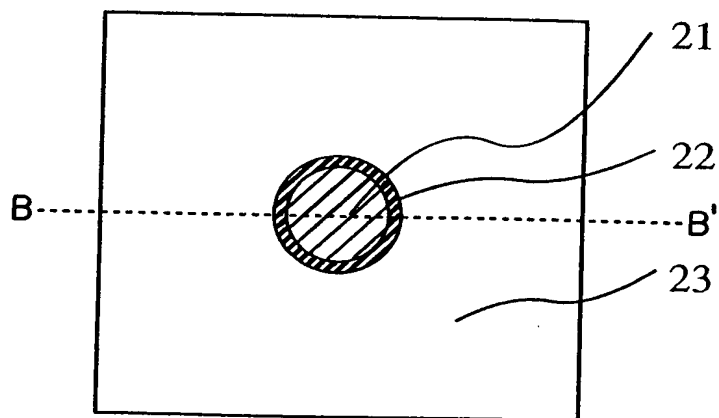


FIG. 18A

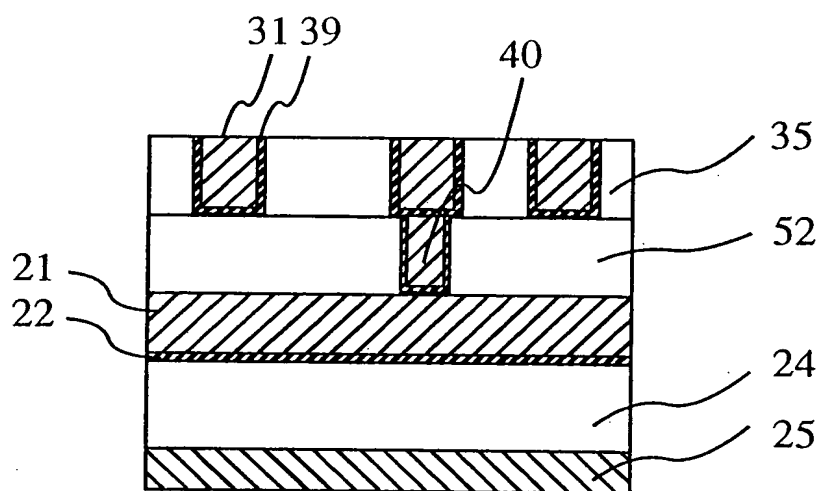


FIG. 18B

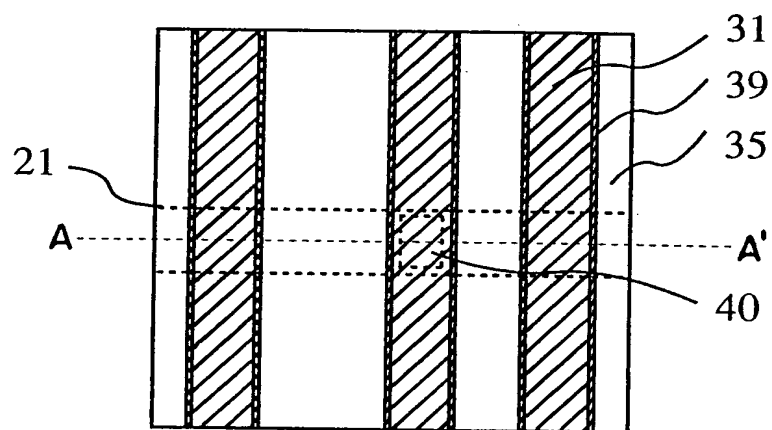


FIG. 19A

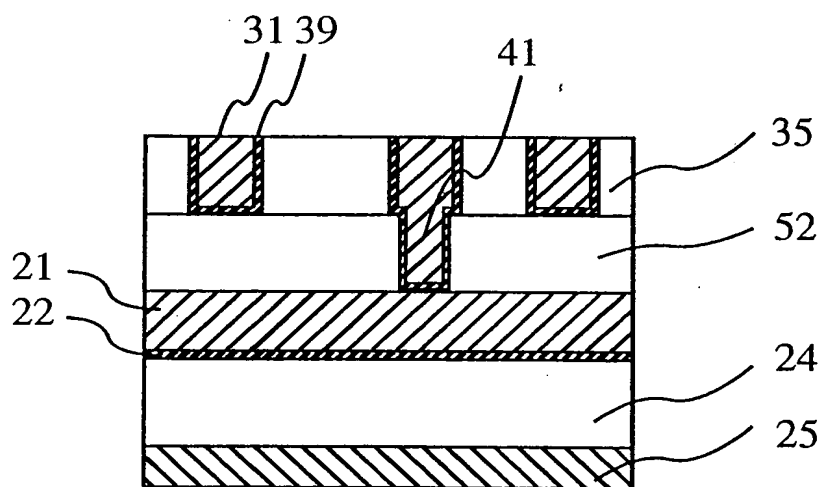


FIG. 19B

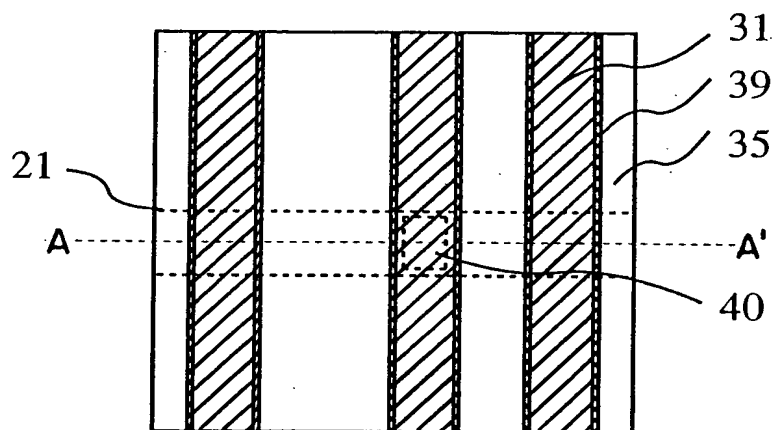


FIG. 20A

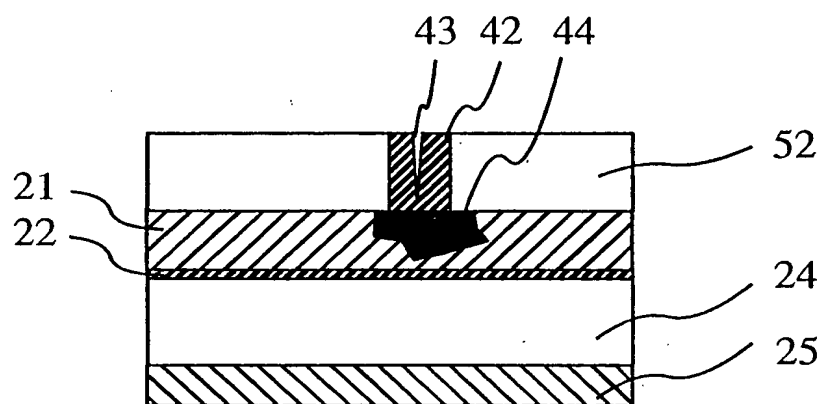


FIG. 20B

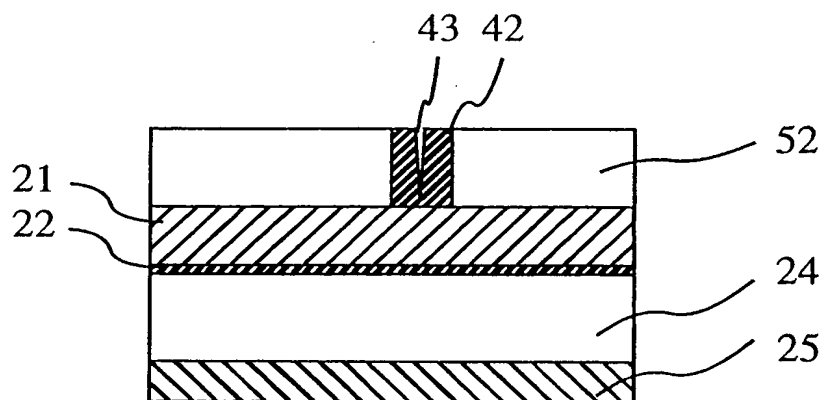


FIG. 21

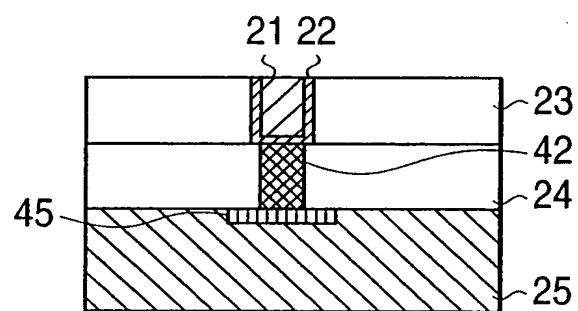


FIG. 22A

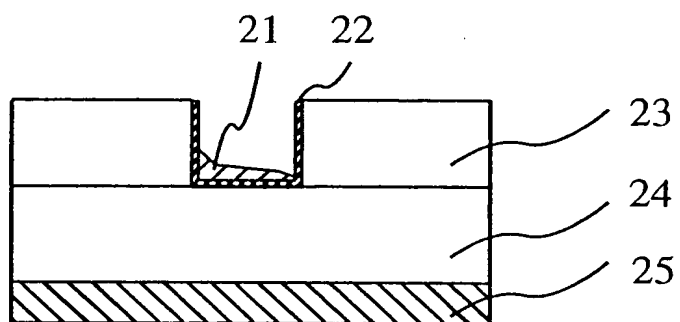


FIG. 22B

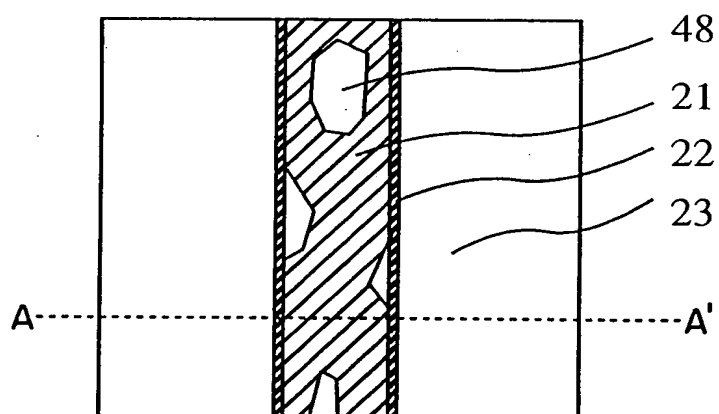


FIG. 23

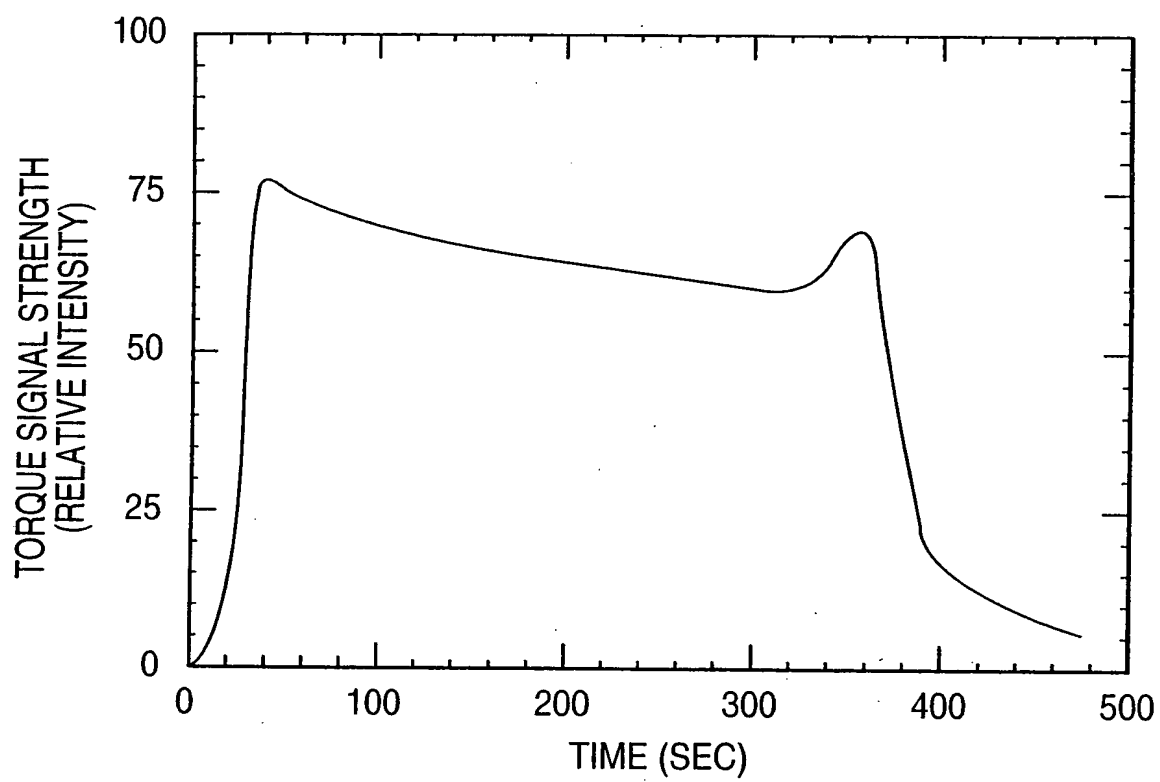


FIG. 24

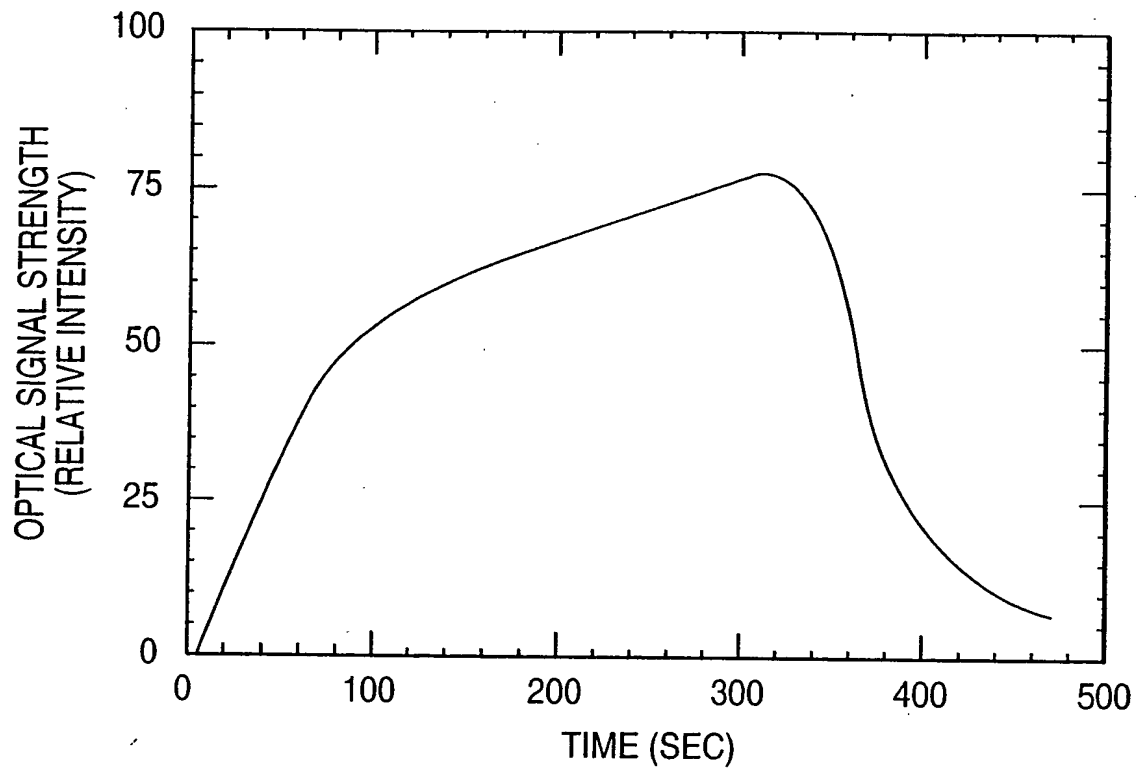


FIG. 25

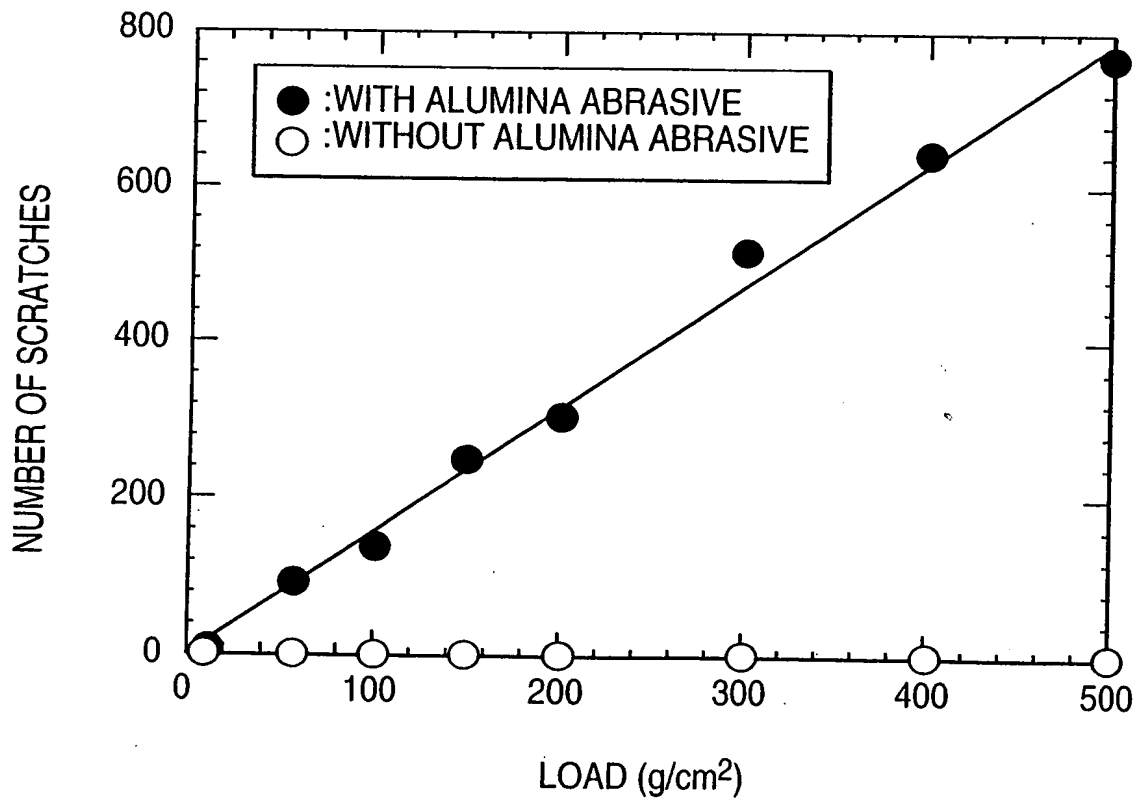


FIG. 26

